PUBLIC HEALTH Bulletin

COUNTY OF ORANGE • HEALTH CARE AGENCY

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Serologic testing for hepatitis A and B

Ordering serologic tests for viral hepatitis is a daunting experience for many physicians who only rarely need to order these tests. Different sets of tests should be ordered depending on the reason for testing, for example, to diagnose acute hepatitis or to establish whether the patient is immune. It is important to order the appropriate tests because, as with other laboratory tests, the predictive value of a test is adversely affected when used in a low-prevalence population.

Hepatitis A virus (HAV) infection and both acute and chronic hepatitis B virus (HBV) infection are reportable diseases in California. In reviewing reports we receive, we find that often an acute hepatitis panel is ordered on an asymptomatic patient when the physician really intended to establish prior immunity to HAV and/or HBV. As a result, we may get a report of a positive HAV IgM antibody or a positive HBV core IgM antibody (both of which are usually indicative of an acute infection) in a person who clearly does not have hepatitis. This results in a confusing situation for both patient and physician. In addition, while the IgM for both HAV and HBV is only supposed to remain detectable for approximately 6 months after infection, there are patients in whom it can remain positive for a longer period of time.

Unlike many other antibody tests, there is no separate test for IgG antibody to HAV or to HBV core—in both cases the result is the combined total of IgG and IgM. Finally, physicians may be led astray in the interpretation of the results due to the format used by the laboratory in reporting results and the various abbreviations for the serologic tests.

All of this can lead to unnecessary concern on the part of the patient as well as increased costs in sorting out the situation. The accompanying information, found on page 3, is offered as a guide for physicians when ordering hepatitis serology. Questions regarding which tests to order or the interpretation of laboratory tests can be directed to Epidemiology staff at (714) 834-8180.

Acute hepatitis A, acute and chronic hepatitis B, and acute and chronic hepatitis C are reportable conditions in California. Please make reports to Epidemiology by fax at (714) 834-8196 and include copies of serologic and liver function test results. For questions about reporting, please call (714) 834-8180.

This Issue . . .

Health Care Agency program offers free smoking cessation assistance

The County of Orange Health Care Agency's Public Health Services Tobacco Use Prevention Program (TUPP) is now offering free smoking cessation help to Orange County adults and teens wanting to quit.

By calling the new hotline **1-866-NEW-LUNG** (1-866-639-5864), tobacco users are referred to the nearest provider. Services are available in English, Spanish and Vietnamese. The smoking cessation services available through this program include:

- **Telephone Counseling**—Individual counseling is provided for both adults and teenagers.
- **Cessation Seminar**—A one-time class that presents information and materials on self-help, also provided to both teens and adults.
- **Cessation Classes**—A series of classes for teens and adults that provide comprehensive instruction and guidance on smoking cessation.
- **Support Groups**—Structured, counselor-led support groups in which tobacco users attempting to quit find encouragement, understanding and tobacco cessation education though a group sharing process *(for adults only)*.
- **One-on-One Counseling**—The smoker meets in person with a counselor to discuss the individual's cessation needs *(for adults only)*.

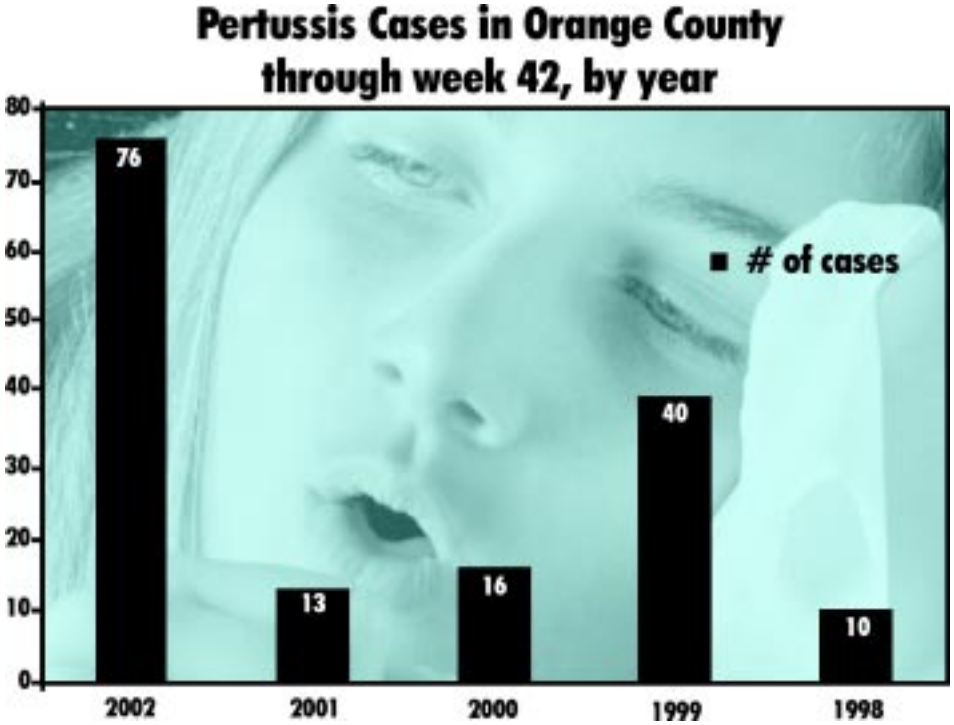
These services have been made possible by the County of Orange Health Care Agency through funds received from the National Tobacco Settlement. Contact Elke Shattuck of the TUPP program at (714) 834-3294 for more information and/or promotional materials about these smoking cessation programs.

For additional information about smoking cessation resources in Orange County, including a list of some of the organizations and programs offering assistance, check out the Tobacco Use Prevention Program's website at http://www.ochealthinfo.com/tupp/home.htm. The site includes information about the multilingual California Smoker's Helpline, programs and support groups located in different geographic areas of the county and organizations that specialize in offering assistance to youth and teens.

Pertussis cases on the increase

The incidence of pertussis (whooping cough) is increasing in 2002 in Orange County as well as California and the nation. It is important to consider pertussis in any person with a prolonged cough. Most reported cases occur in infants less than 6 months of age; however, adolescents and adults, who experience a milder form of the illness, are the source for most of these infections. Please note that suspected cases of pertussis are reportable to Orange County Public Health Epidemiology (714-834-8180, fax 714-834-8196). Do not wait for laboratory results to report a clinically suspected case.

Laboratory confirmation of pertussis is often difficult to achieve because by the time the diagnosis is entertained the patient has had antibiotic treatment and the yield on culture is low. Unfortunately, the alternatives to culture, serology and direct fluorescent antibody (DFA) staining, are poor substitutes for culture. The DFA test currently available has a very low sensitivity and specificity and provides only presumptive identification of the organism. A positive DFA is not considered evidence of infection with *Bordatella pertussis* in the CDC's case definition of pertussis. A negative DFA does not rule out pertussis. Serologic tests use a variety of antigens; none has been standardized. Like the DFA, serologic results are not considered in the CDC's pertussis case definition. Polymerase chain reaction (PCR) tests are not yet standardized and are technically demanding and expensive; however, CDC does accept a positive PCR for *B. pertussis* as laboratory confirmation of infection.



At present, culture remains the best test for *B. pertussis*. The preferred specimen is a nasopharyngeal swab (turn the swab while collecting the specimen). For optimal results, the culture should be taken as soon as pertussis is suspected and before antibiotics are given. *B. pertussis* specimens must be transported in special media or transport tubes and cultured on special media. Call your laboratory to obtain these materials. The culture should be incubated for an extended time due to the slow growth of the organism. Because the culture is frequently negative, it is helpful to obtain a WBC with differential and to document all symptoms and the duration of the cough.

Not too late for influenza protection

Just because we may be past the "prime time" for influenza shots doesn't mean that it's too late for flu shots to be of benefit to your patients. According to the Centers for Disease Control and Prevention (CDC), the United States influenza season can range from November through March, and even past March in some years. During the past 19 influenza seasons, the heaviest influenza activity (peak months) occurred in December 4 times, in January 5 times, in February 7 times and in March 3 times.

The following groups are those designated by the U.S. Public Health Service Advisory Committee on Immunization Practices (ACIP) as those at high risk for severe illness:

- 65 years old or older.
- Adults and children with chronic (on-going) health problems, including asthma or other on-going lung problems, kidney disease, heart disease or diabetes.
- Adults and children with who are immuno-compromised due to illness (such as HIV/AIDS) or medical treatment (such as chemotherapy).
- Children and teenagers between 6 months and 18 years old who are receiving long-term aspirin therapy (risk of Reye syndrome).
- Women who will be beyond the first trimester of pregnancy (>14 weeks' gestation) during the influenza season.

The ACIP also designates the following as groups that can give the disease of flu to those at high risk:

- Adults and children who are household contacts or caregivers for others at high risk of severe illness if they get influenza.
- Health care workers.
- Anyone who works or lives in a nursing home or chronic-care facility that cares for people (of any age) with chronic medical conditions.

Influenza vaccine is also recomended by the ACIP for the following groups:

- Otherwise well persons age 50 and older.
- Infants and children, ages 6-23 months.
- Household contacts or caregivers for a child under 2 years of age. Infants younger than 6 months cannot take a flu shot, but they can get the flu.
- Persons of any age who wish to reduce their risk for acquiring the disease of influenza.

The CDC has developed a gallery of patient-education materials for the 2002-03 season. If you have material from past seasons, please do *not* use it, as the messages will not reflect the current ACIP recommendations. Additional materials will be posted to the CDC website as the season progresses as well as Spanish versions of each item. The materials are found on the CDC's flu website at http://www.cdc.gov/nip/Flu/default.htm.

Influenza vaccinations are eligible for Medicare Part B reimbursement. For more information on Medicare reimbursement, go to the Centers for Medicare and Medicaid Services website at http://www.cms.hhs.gov/ and type "flu shots" in the search box.

Physicians interested in participating in influenza surveillance for Orange County can call Brit Christofferson, Epidemiologist, at (714) 834-8616.

COUNTY OF ORANGE, CA • HEALTH CARE AGENCY • PUBLIC HEALTH

CONFIDENTIAL MORBIDITY REPORT

NOTE: For STD, Hepatitis, or TB, complete appropriate section below. Special reporting requirements and reportable diseases on back.

DISEASE BEING REPORTED: _____ If applicable, specimen date ___ ___ ___ (MONTH DAY YEAR) Source: _____

Patient's Last Name

Social Security Number ___ — ___ — ___

First Name and Middle Name

Birth Date ___ ___ ___ (MONTH DAY YEAR) **Age**

Address: Number, Street **Apt./Unit Number**

City/Town **State** **Zip Code**

Area Code **Home Telephone** ___ — ___ — ___

Gender M F

Pregnant? Y N UNK

Estimated Delivery Date ___ ___ ___ (MONTH DAY YEAR)

Area Code **Work Telephone** ___ — ___ — ___

Patient's Occupation/Setting
- ☐ Food service ☐ Day care ☐ Correctional facility
- ☐ Health care ☐ School ☐ Other: _____

Ethnicity (✓ one)
- ☐ Hispanic/Latino
- ☐ Non-Hispanic / Non-Latino

Race (✓ one)
- ☐ African-American/Black
- ☐ Asian / Pacific Islander (3 one)
  - ☐ Asian-Indian ☐ Japanese
  - ☐ Cambodian ☐ Korean
  - ☐ Chinese ☐ Laotian
  - ☐ Filipino ☐ Samoan
  - ☐ Guamanian ☐ Vietnamese
  - ☐ Hawaiian
  - ☐ Other: _____
- ☐ Native American / Alaskan Native
- ☐ White
- ☐ Other: _____

DATE OF ONSET ___ ___ ___ (MONTH DAY YEAR)

DATE DIAGNOSED ___ ___ ___ (MONTH DAY YEAR)

DATE OF DEATH ___ ___ ___ (MONTH DAY YEAR)

Reporting Health Care Provider

Reporting Health Care Facility

Address

City **State** **Zip Code**

Telephone Number ( ) **Fax** ( )

Submitted By **Date Submitted** ___ ___ ___ (MONTH DAY YEAR)

REPORT TO:

Orange County Public Health

Fax: (714) 834-8196

Mail: P.O. Box 6128
Santa Ana, CA 92706-0128

Phone: (714) 834-8180

SEXUALLY TRANSMITTED DISEASES (STD)

Syphilis
- ☐ Primary (lesion present)
- ☐ Secondary
- ☐ Early latent < 1 year
- ☐ Latent (unknown duration)
- ☐ Late latent > 1 year
- ☐ Late (tertiary)
- ☐ Congenital
- ☐ **Neurosyphilis**

Syphilis Test Results
- ☐ RPR Titer: _____
- ☐ VDRL Titer: _____
- ☐ FTA/MHA: ☐ Pos ☐ Neg
- ☐ CSF-VDRL: ☐ Pos ☐ Neg
- ☐ Other: _____

Gonorrhea
- ☐ Urethral/Cervical
- ☐ PID
- ☐ Other: _____

Chlamydia
- ☐ Urethral/Cervical
- ☐ PID
- ☐ Other: _____

- ☐ **PID (Unknown Etiology)**
- ☐ **Chancroid**
- ☐ **Non-Gonococcal Urethritis**

STD TREATMENT INFORMATION
- ☐ **Treated (Drugs, Dosage, Route)**

_____

_____

Date Treatment Initiated ___ ___ ___ (MONTH DAY YEAR)

- ☐ **Untreated**
  - ☐ Will treat
  - ☐ Unable to contact patient
  - ☐ Refused treatment
  - ☐ Referred to: _____

VIRAL HEPATITIS
- ☐ **Hep A**
- ☐ **Hep B**
  - ☐ **Acute**
  - ☐ **Chronic**
- ☐ **Hep C**
  - ☐ **Acute**
  - ☐ **Chronic**
- ☐ **Hep D (Delta)**
- ☐ **Other:** _____

Please send copies of the hepatitis serologies (required for diagnosis) and liver enzymes (if done).

Suspected Exposure Type
- ☐ Blood transfusion ☐ Other needle exposure
- ☐ Sexual contact ☐ Household contact
- ☐ Child care ☐ Other: _____

TUBERCULOSIS (TB)

Status
- ☐ **Active Disease**
  - ☐ Confirmed
  - ☐ Suspected
- ☐ **Infected, No Disease**
  - ☐ Converter
  - ☐ Reactor

Site(s)
- ☐ Pulmonary
- ☐ Extra-Pulmonary
- ☐ Both

Mantoux TB Skin Test

Date Performed ___ ___ ___ (MONTH DAY YEAR)

Results _____ mm ☐ Pending ☐ Not done

Chest X-ray

Date Performed ___ ___ ___ (MONTH DAY YEAR)

- ☐ Normal ☐ Pending ☐ Not done
- ☐ Cavitary ☐ Abnormal/Noncavitary

Bacteriology

Date Specimen Collected ___ ___ ___ (MONTH DAY YEAR)

Source: _____

Smear: ☐ Pos ☐ Neg ☐ Pending ☐ Not done

Culture: ☐ Pos ☐ Neg ☐ Pending ☐ Not done

Other test(s): _____

_____

_____

TB TREATMENT INFORMATION
- ☐ **Current Treatment**
  - ☐ INH ☐ RIF ☐ PZA
  - ☐ EMB ☐ Other: _____

Date Treatment Initiated ___ ___ ___ (MONTH DAY YEAR)

- ☐ **Untreated**
  - ☐ Will treat
  - ☐ Unable to contact patient
  - ☐ Refused treatment
  - ☐ Referred to: _____

REMARKS

Please report the following diseases/conditions, including probable cases, to Epidemiology & Assessment using the specified method and time frame.

Epidemiology and Assessment
P.O. Box 6128, Santa Ana, CA 92706-0128
Telephone: (714) 834-8180, Fax: (714) 834-8196

If a report is urgent and it is a holiday, weekend, or after regular work hours, please contact the public health official on call at (714) 628-7008.

☎ reported **REPORT IMMEDIATELY** by telephone to Epidemiology.
❶ Report within **ONE (1) WORKING DAY** of identification by telephone, fax, or mail to Epidemiology.
⑦ Report within **SEVEN (7) CALENDAR DAYS** of identification by telephone, fax, or mail to Epidemiology.
★ When two (2) or more cases of suspected cases of foodborne illness from ***separate households*** are suspected to have the same source of illness, please **REPORT IMMEDIATELY** by telephone to Epidemiology.

⑦ AIDS **[Please call, DO NOT FAX REPORT]**
❶ Amebiasis
❶ Anisakiasis
☎ Anthrax
❶ Babesiosis
☎ Botulism (infant, foodborne, wound)
☎ Brucellosis
❶ Campylobacteriosis
⑦ Chancroid
⑦ Chlamydial infections
☎ Cholera
☎ Ciguatera Fish Poisoning
⑦ Coccidioidomycosis
❶ Colorado Tick Fever
❶ Conjunctivitis, acute infections of the newborn—please specify etiology
❶ Cryptosporidiosis
⑦ Cysticercosis
☎ Dengue
☎ Diarrhea of newborn, outbreaks only
☎ Diphtheria
☎ Domoic Acid Poisoning (Amnesic Shellfish Poisoning)
⑦ Echinococcosis (Hydatid Disease)
⑦ Ehrlichiosis
❶ Encephalitis—please specify etiology
☎ Escherichia coli O157:H7 infection
★ Foodborne disease
⑦ Giardiasis
⑦ Gonococcal infections
❶ *Haemophilus influenzae*, invasive disease (persons under 30 years of age)
☎ Hantavirus infections
☎ Hemolytic Uremic Syndrome
❶ Hepatitis A
⑦ Hepatitis B (specify acute case or chronic)
⑦ Hepatitis C (specify acute case or chronic)
⑦ Hepatitis D (Delta)
⑦ Hepatitis, other, acute
⑦ HIV **[Please call, DO NOT FAX REPORT]**
⑦ Kawasaki Syndrome (Mucocutaneous Lymph Node Syndrome)
⑦ Legionellosis
⑦ Leprosy (Hansen's Disease)
⑦ Leptospirosis
❶ Listeriosis
⑦ Lyme Disease
❶ Lymphocytic Choriomeningitis
❶ Malaria
❶ Measles (Rubeola)
❶ Meningitis—please specify etiology
☎ Meningococcal infections
⑦ Mumps
⑦ Non-Gonococcal Urethritis (excluding lab confirmed Chlamydial infections)
☎ Outbreaks
☎ Paralytic Shellfish Poisoning
⑦ Pelvic Inflammatory Disease (PID)
❶ Pertussis (Whooping Cough)
☎ Plague, human or animal
❶ Poliomyelitis, paralytic
❶ Psittacosis
❶ Q Fever
☎ Rabies, human or animal
❶ Relapsing Fever
⑦ Reye Syndrome
⑦ Rheumatic Fever, acute
⑦ Rocky Mountain Spotted Fever
⑦ Rubella (German Measles)
⑦ Rubella Syndrome, congenital
❶ Salmonellosis (other than Typhoid Fever)
☎ Scombroid Fish Poisoning
❶ Shigellosis
☎ Smallpox (Variola)
❶ Streptococcal infections (invasive disease caused by group *A Streptococcus*; outbreaks of any type; individual cases in food handlers and dairy workers only)
❶ Swimmer's Itch (Schistosomal Dermatitis)
❶ Syphilis
⑦ Taeniasis (request of health officer)
⑦ Tetanus
⑦ Toxic Shock Syndrome
⑦ Toxoplasmosis
❶ Trichinosis
❶ Tuberculosis (including suspected cases)
☎ Tularemia
❶ Typhoid Fever, cases and carriers
⑦ Typhus Fever
☎ Unusual diseases
☎ Varicella (deaths only)
❶ Vibrio infections
☎ Viral Hemorrhagic Fevers (e.g., Crimean-Congo, Ebola, Lassa, and Marburg viruses)
❶ Water-associated disease
☎ Yellow Fever
❶ Yersiniosis

Reportable Noncommunicable Diseases/Conditions: Disorders characterized by lapses of consciousness, Alzheimer's disease and related disorders; cancer [except (1) basal and squamous skin cancer unless occurring on genitalia, and (2) carcinoma in-situ and CIN III of the cervix]; animal bites and scratches; child lead levels ≤ 10μg/dL; suspected/confirmed pesticide-related illnesses; child and elder abuse; and domestic violence. To report noncommunicable diseases/conditions, please see the "Reportable DiseasesReporting Other Than Communicable Diseases" page on the website below:

(Rev. 7/02)

http://www.ochealthinfo.com/epi

Recommended Serologic Testing for: Acute Hepatitis Chronic Hepatitis B Immunity to Hepatitis A and B

Reason for testing	Recommended tests	Comments
Acute hepatitis panel (symptomatic patient)*	HAVAB IgM **and** HBsAg **and** IgM anti-HBc **and** Anti-HCV	The **IgM** antibodies for HAV and HBV core must be specified.
Chronic HBV infection*	HBsAg and Anti-HBs	HBsAg and anti-HBc (the total core antibody) will be positive; anti-HBs will be negative (if done, IgM anti-HBc should be negative). A patient who has a positive HBsAg result on 2 tests at least 6 months apart is also considered to be chronically infected.
Immunity due to previous HAV infection	HAVAB	In an asymptomatic patient, a positive HAVAB, which measures both IgG and IgM, can be considered as evidence of immunity. The IgM must be requested separately if acute infection is suspected—see acute hepatitis panel above.
Immunity due to previous HBV infection	Anti-HBc	This is the single best test for determining previous infection with HBV; however, HBsAg should also be done to determine if the patient is chronically infected.
Immunity due to HAV vaccination		There are no commercial tests for this purpose. Post-vaccine testing is not recommended.
Immunity due to HBV vaccination	Anti-HBs	This test is best done within 1-3 months following completion of the vaccine series because the level of antibody falls over time and may become undetectable even in individuals who responded to the vaccine and are still protected years later. If no pre-vaccination screening was done and the patient does not develop a response to the vaccine series, consider testing for chronic infection.

*Consider testing for hepatitis Delta (HDV) if the patient has severe or progressive liver disease and is HBsAg positive. HDV infection can be acquired either as a co-infection with HBV or as a superinfection of persons with chronic HBV infection.

Glossary of hepatitis A, B, and C serologic terms

Hepatitis A virus (HAV)

HAVAB: Total antibody to hepatitis A virus, includes IgG and IgM
HAVAB IgM: IgM antibody to hepatitis A virus

Hepatitis B virus (HBV)

HBsAg: Hepatitis B surface antigen
Anti-HBc: Total antibody to hepatitis B virus, includes IgG and IgM
IgM anti-HBc: IgM antibody to hepatitis B virus core
Anti-HBs: Antibody to hepatitis B surface antigen

Hepatitis C virus (HCV)

Anti-HCV: Antibody to hepatitis C virus

CDC offers Smallpox resource

A web-based training program entitled "*Smallpox Vaccination and Adverse Events Training Module*" is being offered to practitioners by the Centers for Disease Control and Prevention (CDC). The site, located at http://www.bt.cdc.gov/training/smallpoxvaccine/reactions/default.htm, was developed jointly with the Department of Health and Human Services to provide health care providers a ready reference resource to help them properly evaluate responses to vaccination and indications for treatment of patients with certain rare but sometimes serious complications.

Those who register as a participant with the Agency for Toxic Substances and Disease Registry (ATSDR) *Training and Continuing Education OnLine* may receive credit in the continuing medical education (CME), continuing nursing education (CNE), continuing education (CEU) and continuing education contact hours (CECH) categories upon successful completion of the on-line evaluation and examination.

ORANGE COUNTY REPORTED CASES OF SPECIFIED NOTIFIABLE DISEASES

Third Quarter (Weeks 1-39)
Number of Cases by Year of Report

DISEASE	2002	2001	2000	1999
AIDS	192	293	229	217
AMEBIASIS	13	19	16	16
CAMPYLOBACTERIOSIS	230	209	253	178
CHLAMYDIA	4491	4353	3684	3825
CRYPTOSPORIDIOSIS	6	5	1	4
E. COLI O157:H7	4	7	28	9
FOOD POISONING OUTBREAKS	53	29	11	18
GIARDIASIS	98	125	183	184
GONOCOCCAL INFECTION	538	496	444	406
H-FLU, INVASIVE DISEASE	3	3	4	4
HANSEN'S DISEASE, LEPROSY	0	0	1	1
HEPATITIS A (acute)	76	117	209	193
HEPATITIS B (acute)	44	41	43	35
HEPATITIS B (chronic)	822	1187	1171	1126
HEPATITIS C (acute)	5	8	4	10
HEPATITIS C (chronic)	1517	1934	1912	1865
HEPATITIS OTHER/UNSPECIFIED	11	9	18	29
KAWASAKI DISEASE	13	13	13	14
LISTERIOSIS	10	11	9	6
MALARIA	12	11	12	7
MEASLES (RUBEOLA)	2	5	1	4
MENINGITIS, TOTAL	290	217	258	205
ASEPTIC MENINGITIS	243	193	204	163
MENINGOCOCCAL INFECTIONS	7	13	19	12
MUMPS	5	2	4	2
NON-GONOCOCCAL URETHRITIS	639	508	535	386
PERTUSSIS	62	12	15	34
PELVIC INFLAMMATORY DISEASE	54	46	57	11
RUBELLA	0	0	2	0
SALMONELLOSIS	202	190	290	203
SHIGELLOSIS	102	86	158	125
STREP, INVASIVE GROUP A	47	29	30	29
SYPHILIS, TOTAL	238	169	173	171
PRIMARY	10	14	4	14
SECONDARY	8	19	17	14
EARLY LATENT	27	20	16	29
LATENT	1	5	4	4
LATE LATENT	190	111	121	106
CONGENITAL	2	0	10	3
NEUROLOGICAL	0	0	1	1
TUBERCULOSIS	124	162	127	154
TYPHOID FEVER, CASE	2	0	2	1

County of Orange Health Care Agency

PUBLIC HEALTH Bulletin

COUNTY OF ORANGE • HEALTH CARE AGENCY

Public Health Bulletin is published by the County of Orange Health Care Agency, Quality Management/Public Information under the direction of:

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Public Health Bulletin provides up-to-date information on public health issues affecting the Orange County medical community. **PHB** welcomes your ideas, comments, and article submissions. Please direct all comments and/or questions to:

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